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Mr John Pearson
with Extracts from the Author



CASE OF CROUP

SUCCESSFULLY TREATED

BY MONS. PINEL;

WITH

REMARKS.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

IN

THE

CASE of ANGINA TRACHEALIS, or CROUP, *successfully treated by Mons. PINEL, First Physician to the Salpetriere Hospital at Paris: (from a Work just published by this Author under the Title of "Medecine Clinique," Paris, An. x. (1802).) To which are added, some Remarks relative to the Treatment of this Disorder, and particularly relative to the beneficial Effects produced by the Inhalation of Æther-Vapour; by RICHARD PEARSON, M. D.*

* *FIRST Day of the Disease.*—An infant of sixteen months was less lively than usual at the time of getting up and being dressed. Slight coryza; cough. He was taken out an airing for a considerable time. In the night, a hoarse cough; oppression; great heat; restlessness.

Second Day.—At six o'clock in the morning, one grain of antimoniated tartrate of potash (tartarised antimony) in four ounces of milk, was ordered in small doses, very frequently repeated. It was given at too long intervals, and produced no effect.

At eight o'clock, face flushed; mouth gaping; nostrils dilated; voice shrill, hissing; a peculiar barking noise (*glapissement* †); breathing stertorous; drowsiness; skin, burning. The child was constantly putting his hand to his throat; no urine. The emetic potion repeated, but at much shorter intervals; after some straining, a vomiting of thick, slimy, ropy matter. *Apedun-viam*, which, not being warm enough, increased the difficulty of breathing and stricture of the throat. Frequent inhalation of sulphuric æther (vitriolic æther); an enema with sulphate of soda (vitriolated natron); sneezing provoked by every possible method: for drink, hyssop-tea, with syrup of vinegar.

* In narrating his cases, Monsieur Pinel has imitated the aphoristic style of the Coan Sage; describing, in as few words as possible, the essential symptoms of each disease, and the critical changes which supervene during its course. Were this method generally adopted, how much less tedious, how much more instructive would medical histories prove!

† It is difficult (says M. Pinel) to describe the sound of voice peculiar to this disease. It may be compared to the crow of a young cock. He thinks it should be expressed by a specific term, and accordingly has employed, in the other cases of angina trachealis which he has related, the term *croupal voice*, to denote this modification of sound.

During the day, all the symptoms are observed to get worse, if the patient is not roused from his propensity to dozing.

In the evening, *the pediluvium (but made much warmer) repeated*, with some relief; an enema, which brought away some yellow fæces. Some remission after the operation of these two remedies. At nine o'clock, an aggravation of all the symptoms; extreme drowsiness, stupor. *Another emetic*, which brought away some slimy matter upwards, and occasioned some stools of a greyish appearance.

In the night, *the neck was rubbed, in the direction of the trachea, with an opiate and camphorated liniment, which was also kept constantly applied.*

Third Day.—Symptoms more alarming. *Continuation of the same remedies, with exception of the emetic potion.*

At seven o'clock in the morning, skin less dry; a sort of remission; apparent calm.

At nine o'clock, convulsive movements; soon after, copious, yellow stools. From that time, urine milky, abundant.

At noon, a very evident remission; breathing more free; voice less barking; cough less frequent; a desire for food. *Some broth allowed.*

In the night, excessive drowsiness; yet the remission continued.

Fourth Day.—The symptoms continue to abate. In the night, breathing noisy, but became free on shaking the child; liniment set aside on account of the opium.

Sixth Day.—Copious, highly fætid sweats. Convalescence; during which some gentle purgatives were given, for the purpose of cleansing the bowels thoroughly.

IN the preceding history, no mention is made of the state of the pulse; doubtless for the reason, that, in so young a subject, under such circumstances, the arterial strokes could not be accurately numbered.

This case affords a memorable instance of what may be effected by a physician, who to great skill, joins unremitting attention. Had his visits been less frequent, or (as Monsieur Pinel remarks in another part of his work) had the execution of his directions been delayed or omitted by the child's friends, the event would have been like that of two or three other cases * of this disorder which occurred at the Salpetriere Hospital, where the necessary attentions from domestics and parents were wanting; it would have been fatal.

If we reflect on the means by which a case, wherein the *croupal affection* was so strongly

* These cases, however, are not exactly parallel; two of them were complicated, one with scarlatina, another with malignant small-pox.

marked, was brought to a favourable issue; we shall be disposed to attribute a principal agency in the curative process to the repeated exhibition of emetics; something also to the enemata, pediluvia, and stimulant application to the throat; but more to the *Æther-Vapour*, directed to be frequently inhaled, as soon as the characteristic symptoms of the disease appeared. This vapour, applied immediately to the seat of the disease, would abstract the superabundant heat tending to inspissate and condense the effused coagulable lymph into a membraniform substance; would moisten and soften such portion of the coagulum as might be already formed †; and coming into contact with some of the secreting vessels (on the inner surface of the trachea), not yet defended by a coating of this morbid production, would arrest or modify the action of those vessels, so as to cause them to pour out a thinner and less concrescible or simply mucous fluid. Thus the further progress of the croupal affection would be prevented; and the membranous coagulum already formed, would be so softened and loosened, as to be susceptible of ejection by the act of vomiting; accordingly, we find, in the case here related, that a great quantity of thick ropy matter was in this manner brought away. The chief part of what was thrown up, doubtless came from the stomach; but there can be as little doubt, that much of it came from the wind-pipe also.

It was from considering this disease and the action of *Æther-Vapour* in the point of view just mentioned, that I was induced to recommend the trial of it in cases of croup, about five years ago; in the remarks which have been published in the 7th vol. of Dr. Simmons's Medical Facts and Observations. It is there mentioned, in a note to the communication respecting the employment of *Æther-Vapour* in phthisis pulmonalis, that "*it promised also to be of use in cases of whooping-cough and croup.*" I said, promised to be of use; for at that time I had only witnessed its effects in a single instance, where the croupal symptoms existed in a slight and somewhat equivocal degree. Monsieur Pinel's patient, however, has afforded the most decided and satisfactory proof of its medicinal efficacy in this disorder.

What adds to the value of this remedy, is the facility with which it may be applied. How difficult, sometimes how impossible it is, to make children swallow down medicines, every practitioner knows. In the present instance, no compliance or exertion is required on the

† This concrescible fluid consists of what modern chemists have termed the *albuminous matter*, or *albumen*; one of the component parts of the blood. Now it is certain that the albuminous matter is coagulable by vitriolic æther; and it may, therefore, on a first reflection, be thought strange and absurd, that its vapour should be employed to soften this coagulum already formed, or to prevent its formation. The fact, however, is, first, that vitriolic æther coagulates this fluid *only to a certain degree*, rendering it opaque and like a soft curd, but not firm and coherent; and secondly, that albumen brought to a hard and dry coagulum by heat, is considerably softened by subsequent exposure to the vapour of vitriolic æther. This I have ascertained by experiments. I am inclined to think, however, that the beneficial effects produced by inhaling this vapour, in the disease under consideration, should be referred partly to its subtracting the preternatural heat from the tracheal tube, and thereby preventing the perfect concretion or membranification of the effused liquid, and partly to its modifying action on the secreting vessels themselves.

part of the patient. All that is necessary is to put the æther into a tea-cup, and hold the same under the patient's mouth, the warmth of the hand being sufficient to vaporize the æther even in cold weather : or a handkerchief or sponge may be moistened with the æther, and held near the mouth. But this last is a wasteful mode of applying it *.

It may be desirable in some instances, where vomits cannot be conveyed into the stomach, to communicate an emetic power to the æther. This may be done by shaking it briskly in a phial with some dried, pulverized squill. It will extract the nauseating property of this drug, in the short space of ten or fifteen minutes, if a person keep shaking the phial the whole of the time.

At the same time that Æther-Vapour (pure, or combined with the nauseating property of the squill) is applied *internally*, to check or suspend the morbid process going forward in the tracheal tube ; attempts should be made to excite inflammatory, and perhaps suppurative action *externally*, by rubbing the neck with strong rubefacients, or by scarifying the part which lies over the trachea, and afterwards sprinkling the wounded surface with pulverized cantharides or favin-powder : for, in a disease whose course is so rapid, the common mode of blistering is too tardy in producing its effect.

The use of mercury, which has been recommended in the croup, on such rational grounds, by Dr. Rush, of Philadelphia, and other physicians, will by no means clash with the administration of the Æther-Vapour and other measures already mentioned ; but we would remark, that the first effect of the mercury must be merely to relieve some of the symptoms of a subordinate rank only (such as a mucons colluvies in the intestinal canal), and that a long series of hours must elapse (even when used externally as well as internally) before it can affect the absorbent vessels throughout their whole extent, so as to produce in those ramifications, which are distributed over the inner surface of the trachea, a new, a vigorous, and a salutary action. It is doubtless a valuable auxiliary ; but the other remedies before recommended, whose operation is so much more direct and speedy, should be chiefly relied upon†.

From the supposed analogy between the first stage of the croup and peripneumony, bleeding both general and topical has been advised by the majority of physicians who have written on this subject. But we would remark, First, That it resembles peripneumonia notha, rather than peripneumonia vera ; Secondly, That what is termed the first stage, is a period of a very few hours ; and Thirdly, That at the time when the croupal affection is distinctly marked, the

* It is nothing new to recommend the inhalation of vapours in the croup. Dr. Home long since advised the vapour of vinegar and hot water ; and other writers on this disease have repeated the same directions after him ; but the action of the warm vapour of heated vinegar and water is very different from that of Æther-Vapour. On this occasion I shall not attempt to specify their difference ; for the present I shall only remark, that I know of no confirmed case of croup where those warm acid, or simply aqueous vapours effected a cure ; whereas in Mons. Pinel's patient, in whom the Æther-Vapour was so freely and so frequently employed, this happy event was accomplished.

† The effect aimed at on the absorbent system, by the use of mercury in this disease, is produced in much less time, and consequently with much better chance of success, by means of antimonial vomits frequently repeated. We have ourselves had no experience of digitalis, which some practitioners have so successfully employed in the croup.

true inflammatory action is on the decline, or rather ceases to exist*. Add to this, that the same coagulable exudation sometimes occurs in cases of angina maligna. We are therefore of opinion that, when the disease is *fully formed* (and physicians are seldom called in before this period), general bleeding should not be resorted to; with regard to the subtraction of a small quantity of blood from the vessels near the part affected, by means of leeches, we would not object to it, though the evidence in its favour is not so strong as could be wished. In one case which fell under our own observation, topical bleeding was of no avail; and in the instance of Monsr. Pinel's patient, a cure was effected without the aid of the lancet, cupping-glasses, or leeches. Yet it is not denied, that, *while the disease is forming*, (but how short is that period!) moderate venesection will generally be proper: so much depends on time and other contingencies in the application of a remedy, which may produce either the most beneficial or the most injurious effects upon the body.

* According to our pathological views in this instance, the minute vessels distributed over the inner surface of the trachea, and destined to secrete a mucous fluid to lubricate and defend this tube from atmospherical irritation, are thrown into a specific action, partaking of an inflammatory nature, by some cause or causes not yet clearly ascertained. In consequence of this action, these vessels pour out a coagulable fluid, and thereby relieve themselves to a certain degree from inflammation.

Thus it would appear, that the coagulable effusion answers to this set of vessels the same purpose, in regard to the abatement or removal of their specific inflammation, as the loss of blood does to the sanguiferous vessels, when they are in a phlegmonous state.—These notions relative to the nature of croup, accord with those of Mr. Rumfey of Chesham. (See vol. ii. of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge.)

After sending the preceding observations to the press, Dr. Cheyne's recent publication on the Croup came to our hands. We cannot now fully examine this work, valuable for the cases related in it, and for its plates. According to his view of the disease, it consists in simple inflammation of the trachea; yet if this were the case, it should, like all other simple inflammations, yield to the lancet, and other depleting remedies; but it does not. It should moreover occur at all periods of life, the trachea not being exempt from inflammation at any age: but it is confined to infancy. It appears therefore to be a *specific* inflammation; and when we consider that it affects a set of vessels not sanguiferous, and that on dissection the marks of an erythematous (see Dr. Cheyne's Essay, p. 60), rather than of a phlegmonous condition are seen, we shall be inclined to think the use of the lancet should not be carried to so great a length, even at the onset of the disease, as Dr. Cheyne would inculcate. Add to this, that the blood is not always fizy (Dr. C.'s Essay, p. 24, 40). Dr. Cheyne imagines the croupal sound to be merely the consequence of the inflammatory affection of the trachea (Essay, as above, p. 22, 23), and that it *precedes* the effusion and condensation of the coagulable fluid; but if this were the case, the barking sound should be a common occurrence in catarrh and peripneumonia notha; where more or less of inflammatory affection in the windpipe exists.

Bloomsbury Square, Feb. 4, 1802.

